	· ·	Exploring the Ex	treme	
2006 21st Century Science Standards and Objectives				
Grade K				
Activity/Lesson	State	Standards		
Finding the Center of Gravity Using Rulers		SCI.K.SC.O.K. 1.01	ask questions about themselves and their world.	
Finding the Center of Gravity Using Rulers		SCI.K.SC.O.K. 1.03	demonstrate curiosity, initiative and creativity by asking questions about the environment noting patterns and variations of natural objects (e.g., trees, leaves, or animal structures).	
Finding the Center of Gravity Using Rulers		SCI.K.SC.O.K. 1.04	explore and describe objects and events using the five senses to develop observational skills and make predictions based on personal observation.	
Finding the Center of Gravity Using Rulers		SCI.K.SC.O.K. 1.05	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, or magnets). collect and record information in a variety of	
Finding the Center of Gravity Using Rulers		SCI.K.SC.O.K. 1.07	ways (e.g., drawings, weather calendar, or graphs).	
Finding the Center of Gravity Using Rulers	WV	SCI.K.SC.O.K. 3.01	recognize that models are representations of real things.	
Finding the Center of Gravity Using Plumb Lines	wv	SCI.K.SC.O.K. 1.01	ask questions about themselves and their world.	
Finding the Center of Gravity Using Plumb Lines	wv	SCI.K.SC.O.K.	demonstrate curiosity, initiative and creativity by asking questions about the environment noting patterns and variations of natural objects (e.g., trees, leaves, or animal structures).	
Finding the Center of Gravity Using Plumb Lines	WV	SCI.K.SC.O.K. 1.04	explore and describe objects and events using the five senses to develop observational skills and make predictions based on personal observation.	
Finding the Center of Gravity Using Plumb Lines	WV	SCI.K.SC.O.K. 1.05	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, or magnets).	
Finding the Center of Gravity Using Plumb Lines	WV	SCI.K.SC.O.K. 3.01	recognize that models are representations of real things.	
Changing the Center of Gravity Using Moment Arms	WV	SCI.K.SC.O.K. 1.01	ask questions about themselves and their world.	

			domonatrata auricaity initiative and areativity
			demonstrate curiosity, initiative and creativity
			by asking questions about the environment
Changing the Center		00114 00 0 14	noting patterns and variations of natural
of Gravity Using	140.7	SCI.K.SC.O.K.	, , , , , ,
Moment Arms	WV	1.03	structures).
			explore and describe objects and events
Changing the Center			using the five senses to develop
of Gravity Using			observational skills and make predictions
Moment Arms	WV	1.04	based on personal observation.
Changing the Center			use scientific instruments and everyday
of Gravity Using			materials to investigate the natural world
Moment Arms	WV	1.05	(e.g., hand lens, balance, or magnets).
Changing the Center			collect and record information in a variety of
of Gravity Using		SCI.K.SC.O.K.	ways (e.g., drawings, weather calendar, or
Moment Arms	WV	1.07	graphs).
Changing the Center			
of Gravity Using		SCI.K.SC.O.K.	recognize that models are representations of
Moment Arms	WV	3.01	real things.
	E	xploring the Ex	treme
		6 21st Century	
	Sta	ndards and Ob	iectives
West Virginia 21st C			
Grade 1			
Activity/Lesson	State	Standards	
Finding the Center of		SCI.1.SC.O.1.	ask questions about themselves and their
Gravity Using Rulers	14/1/	4.04	
. , , ,	VVV	1.01	world.
, , , , , , ,	VVV	1.01	use scientific instruments and everyday
, 3	VVV	1.01	
		SCI.1.SC.O.1.	use scientific instruments and everyday materials to investigate the natural world
Finding the Center of			use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets,
		SCI.1.SC.O.1.	use scientific instruments and everyday materials to investigate the natural world
Finding the Center of		SCI.1.SC.O.1.	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks).
Finding the Center of		SCI.1.SC.O.1.	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks).
Finding the Center of		SCI.1.SC.O.1.	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g.,
Finding the Center of Gravity Using Rulers	WV	SCI.1.SC.O.1. 1.04	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a
Finding the Center of Gravity Using Rulers Finding the Center of	WV	SCI.1.SC.O.1. 1.04 SCI.1.SC.O.1.	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g.,
Finding the Center of Gravity Using Rulers	WV	SCI.1.SC.O.1. 1.04	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g., sketches, pictographs, or models).
Finding the Center of Gravity Using Rulers Finding the Center of Gravity Using Rulers	WV	SCI.1.SC.O.1. 1.04 SCI.1.SC.O.1. 1.06	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g., sketches, pictographs, or models). describe the changes in the motion of
Finding the Center of Gravity Using Rulers Finding the Center of Gravity Using Rulers Finding the Center of	WV WV	SCI.1.SC.O.1. 1.04 SCI.1.SC.O.1. 1.06 SCI.1.SC.O.1.	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g., sketches, pictographs, or models). describe the changes in the motion of objects (e.g., slowing down, speeding up, or
Finding the Center of Gravity Using Rulers Finding the Center of Gravity Using Rulers	WV WV	SCI.1.SC.O.1. 1.04 SCI.1.SC.O.1. 1.06	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g., sketches, pictographs, or models). describe the changes in the motion of
Finding the Center of Gravity Using Rulers Finding the Center of Gravity Using Rulers Finding the Center of Gravity Using Rulers	WV WV	SCI.1.SC.O.1. 1.04 SCI.1.SC.O.1. 1.06 SCI.1.SC.O.1. 2.12	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g., sketches, pictographs, or models). describe the changes in the motion of objects (e.g., slowing down, speeding up, or curving).
Finding the Center of Gravity Using Rulers	wv wv	SCI.1.SC.O.1. 1.04 SCI.1.SC.O.1. 1.06 SCI.1.SC.O.1. 2.12 SCI.1.SC.O.1.	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g., sketches, pictographs, or models). describe the changes in the motion of objects (e.g., slowing down, speeding up, or curving).
Finding the Center of Gravity Using Rulers Finding the Center of Gravity Using Rulers Finding the Center of Gravity Using Rulers	wv wv	SCI.1.SC.O.1. 1.04 SCI.1.SC.O.1. 1.06 SCI.1.SC.O.1. 2.12	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g., sketches, pictographs, or models). describe the changes in the motion of objects (e.g., slowing down, speeding up, or curving).
Finding the Center of Gravity Using Rulers	WV WV WV	SCI.1.SC.O.1. 1.04 SCI.1.SC.O.1. 1.06 SCI.1.SC.O.1. 2.12	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g., sketches, pictographs, or models). describe the changes in the motion of objects (e.g., slowing down, speeding up, or curving).
Finding the Center of Gravity Using Rulers	WV WV WV	SCI.1.SC.O.1. 1.04 SCI.1.SC.O.1. 1.06 SCI.1.SC.O.1. 2.12 SCI.1.SC.O.1. 2.17 SCI.1.SC.O.1.	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g., sketches, pictographs, or models). describe the changes in the motion of objects (e.g., slowing down, speeding up, or curving). use a model to compare land and water features on the Earth.
Finding the Center of Gravity Using Rulers	WV WV WV	SCI.1.SC.O.1. 1.04 SCI.1.SC.O.1. 1.06 SCI.1.SC.O.1. 2.12	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g., sketches, pictographs, or models). describe the changes in the motion of objects (e.g., slowing down, speeding up, or curving).
Finding the Center of Gravity Using Rulers Finding the Center of Gravity Using Rulers	WV WV WV	SCI.1.SC.O.1. 1.04 SCI.1.SC.O.1. 1.06 SCI.1.SC.O.1. 2.12 SCI.1.SC.O.1. 2.17	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g., sketches, pictographs, or models). describe the changes in the motion of objects (e.g., slowing down, speeding up, or curving). use a model to compare land and water features on the Earth. use models as representations of real things.
Finding the Center of Gravity Using Rulers	WV WV WV	SCI.1.SC.O.1. 1.04 SCI.1.SC.O.1. 1.06 SCI.1.SC.O.1. 2.12 SCI.1.SC.O.1. 2.17 SCI.1.SC.O.1.	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, magnets, thermometer, seeds, or rocks). collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g., sketches, pictographs, or models). describe the changes in the motion of objects (e.g., slowing down, speeding up, or curving). use a model to compare land and water features on the Earth.

Finding the Center of			describe the changes in the motion of
_		SCI.1.SC.O.1.	describe the changes in the motion of
Gravity Using Plumb	wv		objects (e.g., slowing down, speeding up, or
Lines		2.12	curving).
Finding the Center of		00140004	
Gravity Using Plumb		SCI.1.SC.O.1.	use a model to compare land and water
Lines	WV	2.17	features on the Earth.
Finding the Center of			
Gravity Using Plumb		SCI.1.SC.O.1.	
Lines	WV	3.02	use models as representations of real things.
Changing the Center			
of Gravity Using		SCI.1.SC.O.1.	ask questions about themselves and their
Moment Arms	WV	1.01	world.
Changing the Center of Gravity Using Moment Arms	WV	SCI.1.SC.O.1. 1.06	collect, record and compare information using a variety of classification systems (e.g., ordering, sorting, or sequencing) and using a variety of communication techniques (e.g., sketches, pictographs, or models).
Changing the Center			describe the changes in the motion of
of Gravity Using		SCI.1.SC.O.1.	objects (e.g., slowing down, speeding up, or
Moment Arms	WV	2.12	curving).
Changing the Center			
of Gravity Using		SCI.1.SC.O.1.	use a model to compare land and water
Moment Arms	WV	2.17	features on the Earth.
Changing the Center			
of Gravity Using		SCI.1.SC.O.1.	
Moment Arms	WV	3.02	use models as representations of real things.
	F	│ xploring the Ex	freme
		6 21st Century	
		ndards and Ob	
West Virginia 21st C			
Grade 2			
Activity/Lesson	State	Standards	
7.0	Otato	Otaridaido	interpret science as the human's search for
Finding the Center of		SCL2.SC O 2	an understanding of the world by asking
Gravity Using Rulers		1.01	questions about themselves and their world.
Cravity Comig Naiols	v		questione about momentos and mon world.
			demonstrate curiosity, initiative and creativity
Finding the Center of		SCI.2.SC.O.2.	by observing, classifying, comparing and
Gravity Using Rulers		1.04	analyzing natural objects in the environment.
Gravity Using Ruleis	V V V	1.04	manipulate scientific instruments and
			everyday materials to investigate the natural
			world (e.g., hand lens, balance,
Finding the Center of		SCI.2.SC.O.2.	thermometer, metric ruler, magnets, weather
_		1.05	instruments, or calculators).
Gravity Using Rulers	VVV	1.03	
			measure the length and width of various
Einding the Contar of		60136003	objects using standard and non-standard
Finding the Center of		SCI.2.SC.O.2.	units (e.g., metric ruler, paper clips, or
Gravity Using Rulers	V V V	1.06	counting bears).

	I		
Finding the Center of		SCI.2.SC.O.2.	compare the effects of force on the motion of
Gravity Using Rulers		2.10	an object.
Cravity Comig Raiors		2.10	arr object.
Finding the Center of		SCI.2.SC.O.2.	
Gravity Using Rulers		3.02	use models as representations of real things.
Finding the Center of		3.02	interpret science as the human's search for
Gravity Using Plumb		SCI.2.SC.O.2.	an understanding of the world by asking
Lines	wv	1.01	questions about themselves and their world.
Lilles	VVV	1.01	questions about themselves and their world.
Finding the Center of			domanatrata auriogity initiative and greativity
Finding the Center of		SCI.2.SC.O.2.	demonstrate curiosity, initiative and creativity
Gravity Using Plumb	14/1/		by observing, classifying, comparing and
Lines	WV	1.04	analyzing natural objects in the environment.
			manipulate scientific instruments and
			everyday materials to investigate the natural
Finding the Center of			world (e.g., hand lens, balance,
Gravity Using Plumb		SCI.2.SC.O.2.	thermometer, metric ruler, magnets, weather
Lines	WV	1.05	instruments, or calculators).
<u></u>			measure the length and width of various
Finding the Center of			objects using standard and non-standard
Gravity Using Plumb		SCI.2.SC.O.2.	units (e.g., metric ruler, paper clips, or
Lines	WV	1.06	counting bears).
Finding the Center of			
Gravity Using Plumb		SCI.2.SC.O.2.	
Lines	WV	3.02	use models as representations of real things.
Changing the Center			interpret science as the human's search for
of Gravity Using		SCI.2.SC.O.2.	an understanding of the world by asking
Moment Arms	WV	1.01	questions about themselves and their world.
Changing the Center			demonstrate curiosity, initiative and creativity
of Gravity Using		SCI.2.SC.O.2.	by observing, classifying, comparing and
Moment Arms	WV	1.04	analyzing natural objects in the environment.
			manipulate scientific instruments and
			everyday materials to investigate the natural
Changing the Center			world (e.g., hand lens, balance,
of Gravity Using		SCI.2.SC.O.2.	thermometer, metric ruler, magnets, weather
Moment Arms	WV	1.05	instruments, or calculators).
			measure the length and width of various
Changing the Center			objects using standard and non-standard
of Gravity Using		SCI.2.SC.O.2.	units (e.g., metric ruler, paper clips, or
Moment Arms	WV	1.06	counting bears).
Changing the Center			compare and contrast simple models of
of Gravity Using		SCI.2.SC.O.2.	different kinds of habitats, including a forest
Moment Arms	WV	2.05	and a stream.
Changing the Center			
of Gravity Using		SCI.2.SC.O.2.	compare the effects of force on the motion of
Moment Arms	WV	2.10	an object.
Changing the Center			
of Gravity Using		SCI.2.SC.O.2.	
Moment Arms	WV	3.02	use models as representations of real things.
	•	Exploring the Ex	treme

2006 21st Century Science					
	Standards and Objectives				
West Virginia 21st C	entury Science				
Grade 3	_				
Activity/Lesson	State	Standards			
L			recognize that scientific explanations may		
Finding the Center of		SCI.3.SC.O.3.	lead to new discoveries (e.g., new		
Gravity Using Rulers	WV	1.01	knowledge leads to new questions).		
			demonstrate curiosity, initiative and creativity		
Finding the Center of		SCI.3.SC.O.3.	by planning and conducting simple		
Gravity Using Rulers	WV	1.04	investigations.		
			support statements with facts found through		
Finding the Center of		SCI.3.SC.O.3.	research from various sources, including		
Gravity Using Rulers	WV	1.06	technology.		
			use scientific instruments, technology, and		
Finding the Center of		SCI.3.SC.O.3.	everyday materials to investigate the natural		
Gravity Using Rulers	WV	1.07	world.		
L					
Finding the Center of		SCI.3.SC.O.3.	apply mathematical skills and use metric		
Gravity Using Rulers	WV	1.09	units in measurements.		
			interpret data presented in a table, graph,		
			map or diagram and use it to answer		
Finding the Center of		SCI.3.SC.O.3.	questions and make predictions and		
Gravity Using Rulers	WV	1.10	inferences based on patterns of evidence.		
Finding the Center of		SCI.3.SC.O.3.			
Gravity Using Rulers	WV	3.02	use models as representations of real things.		
			observe that changes occur gradually,		
			repetitively, or randomly within the		
Finding the Center of		SCI.3.SC.O.3.	environment and question causes of		
Gravity Using Rulers		3.03	changes.		
Finding the Center of			recognize that scientific explanations may		
Gravity Using Plumb		SCI.3.SC.O.3.	lead to new discoveries (e.g., new		
Lines	WV	1.01	knowledge leads to new questions).		
Finding the Center of			demonstrate curiosity, initiative and creativity		
Gravity Using Plumb		SCI.3.SC.O.3.	by planning and conducting simple		
Lines	WV	1.04	investigations.		
Finding the Center of			support statements with facts found through		
Gravity Using Plumb		SCI.3.SC.O.3.	research from various sources, including		
Lines	WV	1.06	technology.		
Finding the Center of			use scientific instruments, technology, and		
Gravity Using Plumb		SCI.3.SC.O.3.	everyday materials to investigate the natural		
Lines	WV	1.07	world.		
Finding the Center of					
Gravity Using Plumb		SCI.3.SC.O.3.	apply mathematical skills and use metric		
Lines	WV	1.09	units in measurements.		
Finding the Center of			observe and describe relationships among		
Gravity Using Plumb		SCI.3.SC.O.3.	organisms and predict the effect of adverse		
Lines	WV	2.04	factors.		
Finding the Center of					
Gravity Using Plumb		SCI.3.SC.O.3.			
Lines	WV	3.02	use models as representations of real things.		

			observe that changes occur gradually,
Finding the Center of			repetitively, or randomly within the
Gravity Using Plumb		SCI.3.SC.O.3.	environment and question causes of
Lines	lwv	3.03	changes.
Changing the Center	VVV	3.03	recognize that scientific explanations may
of Gravity Using		SCI.3.SC.O.3.	lead to new discoveries (e.g., new
Moment Arms	lwv		
	VVV	1.01	knowledge leads to new questions).
Changing the Center		001.000.00	demonstrate curiosity, initiative and creativity
of Gravity Using	114/11/	SCI.3.SC.O.3.	by planning and conducting simple
Moment Arms	WV	1.04	investigations.
Changing the Center		00100000	support statements with facts found through
of Gravity Using	1447	SCI.3.SC.O.3.	research from various sources, including
Moment Arms	WV	1.06	technology.
Changing the Center		0010000	use scientific instruments, technology, and
of Gravity Using		SCI.3.SC.O.3.	everyday materials to investigate the natural
Moment Arms	WV	1.07	world.
Changing the Center			
of Gravity Using		SCI.3.SC.O.3.	apply mathematical skills and use metric
Moment Arms	WV	1.09	units in measurements.
			interpret data presented in a table, graph,
Changing the Center			map or diagram and use it to answer
of Gravity Using		SCI.3.SC.O.3.	questions and make predictions and
Moment Arms	WV	1.10	inferences based on patterns of evidence.
Changing the Center			
of Gravity Using		SCI.3.SC.O.3.	
Moment Arms	WV	3.02	use models as representations of real things.
			observe that changes occur gradually,
Changing the Center			repetitively, or randomly within the
of Gravity Using		SCI.3.SC.O.3.	environment and question causes of
Moment Arms	WV	3.03	changes.
		xploring the Ex	
		6 21st Century ndards and Ob	
West Virginia 21st C		ndards and Ob	Jectives
Grade 4			
Activity/Lesson	State	Standards	
Activity/Lesson	State	Staridards	
Finding the Center of		SCI.4.SC.O.4.	explain how new discoveries lead to changes
Gravity Using Rulers		1.01	in scientific knowledge.
Gravity Gaing Rulers		1.01	in scientific knowledge.
			demonstrate curiosity, initiative and creativity
			by developing questions that lead to
			investigations; designing simple
Finding the Center of		SCI.4.SC.O.4.	experiments; and trusting observations of
Gravity Using Rulers		1.04	discoveries when trying new tasks and skills.
Cravity Using Ruleis	V V	1.04	support statements with facts found through
Finding the Center of		SCI.4.SC.O.4.	
Finding the Center of			research from various sources, including
Gravity Using Rulers	VVV	1.06	technology.
Finding the Contar of		SCI 4 SC O 4	use scientific instruments, technology and
Finding the Center of		SCI.4.SC.O.4.	everyday materials to investigate the natural
Gravity Using Rulers	I V V V	1.07	world.

Finding the Center of Gravity Using Plumb Lines WV Finding the Center of Gravity Using Plumb Lines WV Finding the Center of Gravity Using Plumb Lines WV Finding the Center of Gravity Using Plumb Lines WV Finding the Center of Gravity Using Plumb Lines WV Finding the Center of Gravity Using Plumb Lines WV Finding the Center of Gravity Using Plumb Lines SCI.4.SC.O.4. SCI.4.SC.O.4. Adraw and support conclusions, make predictions and inferences based on patterns of evidence (e.g., weather maps, variation of plants, or frequency and pitch of sound). Finding the Center of Gravity Using Plumb SCI.4.SC.O.4. SCI.4.SC.O.4. Apply mathematical skills and use metric		1	1	
Finding the Center of Gravity Using Rulers Finding the Center of Gravity Using Plumb Lines Finding the Center of Gravity Using Plumb Lines WV Finding the Center of Gravity Using Plumb Lines Finding the Center of Gravity Us			SCI.4.SC.O.4.	construct a hypothesis when provided a
Finding the Center of Gravity Using Rulers WV SCI.4.SC.O.4. SCI	Gravity Using Rulers	WV	1.09	problem.
Gravity Using Rulers WV 1.10 experimentation. interpret data presented in a table, graph, or interpret data presented in a table, graph, or Gravity Using Rulers Finding the Center of Gravity Using Plumb Lines WV SCI.4.SC.O.4. SCI.4.SC.O.4. SCI.4.SC.O.4. SCI.4.SC.O.4. SCI.4.SC.O.4. Explain how new discoveries lead to changes in scientific knowledge. demonstrate curiosity, initiative and creativity by developing questions that lead to investigations; designing simple SCI.4.SC.O.4. Explain how new discoveries lead to changes in scientific knowledge. demonstrate curiosity, initiative and creativity by developing questions that lead to investigations; designing simple SCI.4.SC.O.4. Explain how new discoveries lead to changes in scientific knowledge. demonstrate curiosity, initiative and creativity by developing questions that lead to investigations; designing simple SCI.4.SC.O.4. Explain how new discoveries lead to changes in scientific knowledge. demonstrate curiosity, initiative and creativity by developing questions that lead to investigations; designing simple SCI.4.SC.O.4. Explain how new discoveries lead to changes in scientific knowledge. demonstrate curiosity, initiative and creativity by developing questions that lead to investigate mention of discoveries when trying new tasks and skills. SUMV SCI.4.SC.O.4. Explain how new discoveries lead to changes in scientific knowledge. demonstrate curiosity, initiative and creativity by developing questions that lead to				establish variables and controls in an
Finding the Center of Gravity Using Rulers Finding the Center of Gravity Using Plumb Lines WV SCI.4.SC.O.4. SCI.4.S	Finding the Center of		SCI.4.SC.O.4.	experiment; test variables through
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Gravity Using Plumb SCI.4.SC.O.4. apply mathematical skills and use metric	Gravity Using Plumb Lines	WV		predictions and inferences based on patterns of evidence (e.g., weather maps, variation of
	Finding the Center of			
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	Lines	WV	1.13	units in measurements and calculations.

Finding the Center of	1		
Gravity Using Plumb		SCI.4.SC.O.4.	predict and investigate the motion of an
, ,	lwv	2.22	object if the applied force is changed.
Lines	VVV	2.22	object if the applied force is changed.
Finding the Center of			observe that changes occur gradually,
Gravity Using Plumb		SCI.4.SC.O.4.	repetitively, or randomly within the
Lines	WV	3.03	environment and question causes of change.
Changing the Center		3.03	environment and question causes of change.
		SCI.4.SC.O.4.	avalain hay nay diagovering load to shange
of Gravity Using	14/1/		explain how new discoveries lead to changes
Moment Arms	WV	1.01	in scientific knowledge.
			demonstrate curiosity, initiative and creativity
			by developing questions that lead to
Changing the Contor			
Changing the Center		00140004	investigations; designing simple
of Gravity Using	14/1/	SCI.4.SC.O.4.	experiments; and trusting observations of
Moment Arms	WV	1.04	discoveries when trying new tasks and skills.
Changing the Center		00140004	support statements with facts found through
of Gravity Using	14/1/	SCI.4.SC.O.4.	research from various sources, including
Moment Arms	WV	1.06	technology.
Changing the Center		001 4 6 5 5 :	use scientific instruments, technology and
of Gravity Using		SCI.4.SC.O.4.	everyday materials to investigate the natural
Moment Arms	WV	1.07	world.
Changing the Center			
of Gravity Using		SCI.4.SC.O.4.	construct a hypothesis when provided a
Moment Arms	WV	1.09	problem.
Changing the Center			establish variables and controls in an
of Gravity Using		SCI.4.SC.O.4.	experiment; test variables through
Moment Arms	WV	1.10	experimentation.
Changing the Center			interpret data presented in a table, graph, or
of Gravity Using		SCI.4.SC.O.4.	diagram and use it to answer questions and
Moment Arms	WV	1.11	make decisions.
Changing the Center			
of Gravity Using		SCI.4.SC.O.4.	apply mathematical skills and use metric
Moment Arms	WV	1.13	units in measurements and calculations.
Changing the Center			
of Gravity Using		SCI.4.SC.O.4.	predict and investigate the motion of an
Moment Arms	WV	2.22	object if the applied force is changed.
Changing the Center			,
of Gravity Using		SCI.4.SC.O.4.	create models as representations of real
Moment Arms	WV	3.02	things.
	-	1	J. U.
Changing the Center			observe that changes occur gradually,
of Gravity Using		SCI.4.SC.O.4.	repetitively, or randomly within the
Moment Arms	WV	3.03	environment and question causes of change.
	E	xploring the Ex	treme
		6 21st Century	
		indards and Ob	
West Virginia 21st C	entury Science		
Grade 5	_		
Activity/Lesson	State	Standards	
-			

			realize that scientists formulate and test their
		SCI.5.SC.O.5.	explanations of nature using observation and
Jet Propulsion	WV	1.01	experiments.
			recognize scientific knowledge is subject to
		SCI.5.SC.O.5.	modification as new scientific information
Jet Propulsion	WV	1.02	challenges current explanations.
			Jan San San San San San San San San San S
			cooperate and collaborate to ask questions,
		SCI.5.SC.O.5.	design and conduct investigations to find
Jet Propulsion	WV	1.05	answers and solve problems.
			·
			formulate conclusions through close
		SCI.5.SC.O.5.	observations, logical reasoning, objectivity,
Jet Propulsion	WV	1.06	perseverance and integrity in data collection.
·			
			utilize experimentation to demonstrate
			scientific processes and thinking skills (e.g.,
			formulating questions, predicting, forming
		SCI.5.SC.O.5.	hypotheses, quantifying, or identifying
Jet Propulsion	WV	1.10	dependent and independent variables).
		SCI.5.SC.O.5.	use inferential reasoning to make logical
Jet Propulsion	WV	1.12	conclusions from collected data.
'		SCI.5.SC.O.5.	construct a variety of useful models of an
Jet Propulsion	WV	3.02	object, event, or process.
			recognize scientific knowledge is subject to
		SCI.5.SC.O.5.	modification as new scientific information
Vectoring	WV	1.02	challenges current explanations.
			cooperate and collaborate to ask questions,
		SCI.5.SC.O.5.	design and conduct investigations to find
Vectoring	WV	1.05	answers and solve problems.
			utilize experimentation to demonstrate
			scientific processes and thinking skills (e.g.,
			formulating questions, predicting, forming
		SCI.5.SC.O.5.	hypotheses, quantifying, or identifying
Vectoring	WV	1.10	dependent and independent variables).
		SCI.5.SC.O.5.	use inferential reasoning to make logical
Vectoring	WV	1.12	conclusions from collected data.
Center of Gravity,		SCI.5.SC.O.5.	construct a variety of useful models of an
Pitch, Yaw	WV	3.02	object, event, or process.
			recognize scientific knowledge is subject to
		SCI.5.SC.O.5.	modification as new scientific information
Fuel Efficiency	WV	1.02	challenges current explanations.
			construct and use charts, graphs and tables
		SCI.5.SC.O.5.	to organize, display, interpret, analyze and
Fuel Efficiency	WV	1.11	explain data.
-		SCI.5.SC.O.5.	use inferential reasoning to make logical
Fuel Efficiency	WV	1.12	conclusions from collected data.
		SCI.5.SC.O.5.	construct a variety of useful models of an
Fuel Efficiency	WV	3.02	object, event, or process.

		Exploring the Ex	xtreme		
2006 21st Century Science					
	Standards and Objectives				
West Virginia 21st	t Century Science	e			
Grade 6 Activity/Lesson	State	Standards			
ACTIVITY/LESSOT	State	Stanuarus	realize that scientists formulate and test their		
		SCI.6.SC.O.6.	explanations of nature using observation and		
Jet Propulsion	wv	1.01	experiments.		
			cooperate and collaborate to ask questions,		
		SCI.6.SC.O.6.			
Jet Propulsion	WV	1.05	answers and solve problems.		
			formsulate conclusions through along		
		SCI.6.SC.O.6.	formulate conclusions through close observations, logical reasoning, objectivity,		
Jet Propulsion	wv	1.06	perseverance and integrity in data collection.		
Jet Fropulsion	VVV	1.00	perseverance and integrity in data collection.		
			utilize experimentation to demonstrate		
			scientific processes and thinking skills (e.g.,		
			formulating questions, predicting, forming		
		SCI.6.SC.O.6.	hypotheses, quantifying, or identifying		
Jet Propulsion	WV	1.10	dependent and independent variables).		
		SCI.6.SC.O.6.	use inferential reasoning to make logical		
Jet Propulsion	WV	1.12	conclusions from collected data.		
	140.4	SCI.6.SC.O.6.	construct a variety of useful models of an		
Jet Propulsion	WV	3.02	object, event, or process. realize that scientists formulate and test their		
		SCI.6.SC.O.6.			
Vectoring	wv	1.01	experiments.		
Voctoring		1.01	охропитонко.		
			cooperate and collaborate to ask questions,		
		SCI.6.SC.O.6.	design and conduct investigations to find		
Vectoring	WV	1.05	answers and solve problems.		
			farmulate and history through along		
		SCI.6.SC.O.6.	formulate conclusions through close		
Vectoring	wv	1.06	observations, logical reasoning, objectivity, perseverance and integrity in data collection.		
vectoring	VVV	1.00	apply skepticism, careful methods, logical		
		SCI.6.SC.O.6.	reasoning and creativity in investigating the		
Vectoring	WV	1.07	observable universe.		
		1.5.	use a variety of technologies and scientific		
			instruments to conduct explorations,		
		SCI.6.SC.O.6.	investigations and experiments of the natural		
Vectoring	WV	1.08	world.		
			Litiliza ava arim antation to do		
			utilize experimentation to demonstrate scientific processes and thinking skills (e.g.,		
			formulating questions, predicting, forming		
		SCI.6.SC.O.6.	hypotheses, quantifying, or identifying		
Vectoring	wv	1.10	dependent and independent variables).		
v Solorning	V V V	1.10	aopondoni dna maopondoni vanasios).		

		SCI.6.SC.O.6.	use inferential reasoning to make logical
Vectoring	WV	1.12	conclusions from collected data.
		SCI.6.SC.O.6.	construct a variety of useful models of an
Vectoring	WV	3.02	object, event, or process.
Center of Gravity,		SCI.6.SC.O.6.	construct a variety of useful models of an
Pitch, Yaw	WV	3.02	object, event, or process.
			realize that scientists formulate and test their
		SCI.6.SC.O.6.	explanations of nature using observation and
Fuel Efficiency	WV	1.01	experiments.
			construct and use charts, graphs and tables
		SCI.6.SC.O.6.	to organize, display, interpret, analyze and
Fuel Efficiency	WV	1.11	explain data.
		SCI.6.SC.O.6.	use inferential reasoning to make logical
Fuel Efficiency	WV	1.12	conclusions from collected data.
			explain motion in terms of frames of
		SCI.6.SC.O.6.	reference and analyze graphs depicting
Fuel Efficiency	WV	2.23	motion and predicted future motion.
		SCI.6.SC.O.6.	construct a variety of useful models of an
Fuel Efficiency	WV	3.02	object, event, or process.
		Exploring the Ex	
		06 21st Century	
		andards and Ob	jectives
West Virginia 21st	Century Science		
Grade 7	0.1	0, 1, 1	
Activity/Lesson	State	Standards	
		00170007	realize that scientists formulate and test their
lot Propulaion	WV	SCI.7.SC.O.7. 1.01	explanations of nature using observation and
Jet Propulsion	VVV	1.01	experiments.
			cooperate and collaborate to ask questions,
		SCI.7.SC.O.7.	design and conduct investigations to find
Jet Propulsion	WV	1.05	answers and solve problems.
oct ropulation		1.00	anowere and serve presiding.
			formulate conclusions through close
		00170007	
Jet Propulsion		SCI.7.SC.O.7.	observations, logical reasoning, objectivity,
· · · · · · · · · · · · · · · · · · ·	wv	1.06	observations, logical reasoning, objectivity, perseverance and integrity in data collection.
	WV		perseverance and integrity in data collection.
	WV		9 , ,
	WV		perseverance and integrity in data collection.
	WV		perseverance and integrity in data collection. utilize experimentation to demonstrate
	WV		perseverance and integrity in data collection. utilize experimentation to demonstrate scientific processes and thinking skills (e.g.,
Jet Propulsion	WV	1.06 SCI.7.SC.O.7. 1.10	perseverance and integrity in data collection. utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming
Jet Propulsion		1.06 SCI.7.SC.O.7.	utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, or identifying
Jet Propulsion Jet Propulsion		1.06 SCI.7.SC.O.7. 1.10	utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, or identifying dependent and independent variables).
·	WV	1.06 SCI.7.SC.O.7. 1.10 SCI.7.SC.O.7.	utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, or identifying dependent and independent variables). use inferential reasoning to make logical
·	WV	1.06 SCI.7.SC.O.7. 1.10 SCI.7.SC.O.7.	utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, or identifying dependent and independent variables). use inferential reasoning to make logical conclusions from collected data.
·	WV	1.06 SCI.7.SC.O.7. 1.10 SCI.7.SC.O.7.	utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, or identifying dependent and independent variables). use inferential reasoning to make logical conclusions from collected data. perform experiments with simple machines to demonstrate the relationship between
·	WV	1.06 SCI.7.SC.O.7. 1.10 SCI.7.SC.O.7. 1.12	utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, or identifying dependent and independent variables). use inferential reasoning to make logical conclusions from collected data. perform experiments with simple machines to demonstrate the relationship between
Jet Propulsion	WV WV	1.06 SCI.7.SC.O.7. 1.10 SCI.7.SC.O.7. 1.12 SCI.7.SC.O.7.	utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, or identifying dependent and independent variables). use inferential reasoning to make logical conclusions from collected data. perform experiments with simple machines to demonstrate the relationship between forces and distance; use vectors to represent

			realize that scientists formulate and test their	
		SCI.7.SC.O.7.	explanations of nature using observation and	
Vectoring	WV	1.01	experiments.	
			,	
			cooperate and collaborate to ask questions,	
		SCI.7.SC.O.7.	design and conduct investigations to find	
Vectoring	WV	1.05	answers and solve problems.	
			apply skepticism, careful methods, logical	
		SCI.7.SC.O.7.	reasoning and creativity in investigating the	
Vectoring	WV	1.07	observable universe.	
			use a variety of technologies and scientific	
			instruments to conduct explorations,	
		SCI.7.SC.O.7.	investigations and experiments of the natural	
Vectoring	WV	1.08	world.	
			utilize experimentation to demonstrate	
			scientific processes and thinking skills (e.g.,	
			formulating questions, predicting, forming	
		SCI.7.SC.O.7.	hypotheses, quantifying, or identifying	
Vectoring	WV	1.10	dependent and independent variables).	
		SCI.7.SC.O.7.	use inferential reasoning to make logical	
Vectoring	WV	1.12	conclusions from collected data.	
			perform experiments with simple machines	
		00170007	to demonstrate the relationship between	
\/aatarina	wv	SCI.7.SC.O.7.	forces and distance; use vectors to represent	
Vectoring	VVV	2.24 SCI.7.SC.O.7.	motion.	
Vectoring	wv	3.02	construct a variety of useful models of an object, event, or process.	
vectoring	VVV	3.02	perform experiments with simple machines	
			to demonstrate the relationship between	
Center of Gravity,		SCI.7.SC.O.7.	forces and distance; use vectors to represent	
Pitch, Yaw	wv	2.24	motion.	
Center of Gravity,		SCI.7.SC.O.7.		
Pitch, Yaw	wv	3.02	object, event, or process.	
,		0.02	realize that scientists formulate and test their	
		SCI.7.SC.O.7.	explanations of nature using observation and	
Fuel Efficiency	WV	1.01	experiments.	
,			construct and use charts, graphs and tables	
		SCI.7.SC.O.7.	to organize, display, interpret, analyze and	
Fuel Efficiency	WV	1.11	explain data.	
-		SCI.7.SC.O.7.	use inferential reasoning to make logical	
Fuel Efficiency	WV	1.12	conclusions from collected data.	
		SCI.7.SC.O.7.	construct a variety of useful models of an	
Fuel Efficiency	WV	3.02	object, event, or process.	
		Exploring the Ex		
		2006 21st Century		
Meat Vinnin's 64 4	Comture Color	Standards and Ob	Djectives	
West Virginia 21st Century Science				
Grade 8	State	Ctondordo		
Activity/Lesson	State	Standards		

			formulate scientific explanations based on
			historical observations and experimental
		SCI.8.SC.O.8.	evidence, accounting for variability in
Jet Propulsion	wv	1.01	experimental results.
	1111	1101	use appropriate technology solutions within a
			problem solving setting to measure and
			collect data; interpret data; analyze and/or
			report data; interact with simulations;
		SCI.8.SC.O.8.	conduct research; and present and
Jet Propulsion	wv	1.06	conduct research, and present and communicate conclusions.
	VVV	1.00	design, conduct, evaluate and revise
			experiments (e.g., compose a question to be
			investigated, design a controlled
			investigated, design a controlled investigation that produces numeric data,
			evaluate the data in the context of scientific
			laws and principles, construct a conclusion
			based on findings, propose revisions to
			investigations based on manipulation of
		0010000	variables and/or analysis of error, or
	3407	SCI.8.SC.O.8.	communicate and defend the results and
Jet Propulsion	WV	1.07	conclusions).
			quantitatively represent work, power,
		0010000	pressure (e.g., Work=Force x distance,
		SCI.8.SC.O.8.	Power=Work/time, or pressure=force/area)
Jet Propulsion	WV	2.22	from collected data.
			model processes of soil formation and
		SCI.8.SC.O.8.	suggest methods of soil preservation and
Jet Propulsion	WV	2.30	conservation.
			communicate experimental designs, results
		SCI.8.SC.O.8.	and conclusions using advanced technology
Jet Propulsion	WV	3.03	tools.
			formulate scientific explanations based on
			historical observations and experimental
		SCI.8.SC.O.8.	evidence, accounting for variability in
Vectoring	WV	1.01	experimental results.
			conduct and/or design investigations that
			incorporate the skills and attitudes and/or
			values of scientific inquiry (e.g., established
			research protocol, accurate record keeping,
			replication of results and peer review,
		SCI.8.SC.O.8.	objectivity, openness, skepticism, fairness,
Vectoring	WV	1.04	or creativity and logic).
			use appropriate technology solutions within a
			problem solving setting to measure and
			collect data; interpret data; analyze and/or
			report data; interact with simulations;
		SCI.8.SC.O.8.	conduct research; and present and
Vectoring	WV	1.06	communicate conclusions.

		design conduct confusts and sodes
		design, conduct, evaluate and revise
		experiments (e.g., compose a question to be
		investigated, design a controlled
		investigation that produces numeric data,
		evaluate the data in the context of scientific
		laws and principles, construct a conclusion
		based on findings, propose revisions to
		investigations based on manipulation of
		variables and/or analysis of error, or
	SCI.8.SC.O.8.	communicate and defend the results and
WV	1.07	conclusions).
		quantitatively represent work, power,
		pressure (e.g., Work=Force x distance,
	SCI.8.SC.O.8.	Power=Work/time, or pressure=force/area)
WV	2.22	from collected data.
		model processes of soil formation and
	SCI.8.SC.O.8.	suggest methods of soil preservation and
WV	2.30	conservation.
		communicate experimental designs, results
	SCI.8.SC.O.8.	and conclusions using advanced technology
WV	3.03	tools.
		model processes of soil formation and
	SCI.8.SC.O.8.	suggest methods of soil preservation and
WV	2.30	conservation.
		formulate scientific explanations based on
		historical observations and experimental
	SCI.8.SC.O.8.	evidence, accounting for variability in
WV	1.01	experimental results.
		use appropriate technology solutions within a
		problem solving setting to measure and
		collect data; interpret data; analyze and/or
		report data; interact with simulations;
	SCI.8.SC.O.8.	conduct research; and present and
WV	1.06	communicate conclusions.
	SCI.8.SC.O.8.	quantitatively represent wavelength,
WV	2.20	frequency and velocity (e.g., v= gamma f).
	WV WV WV	WV 1.07 SCI.8.SC.O.8. 2.22 SCI.8.SC.O.8. 2.30 SCI.8.SC.O.8. 3.03 SCI.8.SC.O.8. 2.30 SCI.8.SC.O.8. 1.01 SCI.8.SC.O.8. 1.01